

International Journal of Life Science Research Archive

ISSN: 0799-6640 (Online)

Journal homepage: https://sciresjournals.com/ijlsra/



(RESEARCH ARTICLE)

Check for updates

Pre-anesthetic evaluation: Is it only for risk assessment?

Betül Kocamer Şimşek ^{1,*} and Süleyman Ganidağlı ²

¹ Department of Anesthesia and Reanimation, SANKO University, Gaziantep, Türkiye. ² Department of Anesthesia and Reanimation. Gaziantep University. Gaziantep. Türkiye.

International Journal of Life Science Research Archive, 2022, 03(02), 043-046

Publication history: Received on 07 September 2022; revised on 07 October 2022; accepted on 10 October 2022

Article DOI: https://doi.org/10.53771/ijlsra.2022.3.2.0113

Abstract

Objective: The aim of this study was to report the number of patients who get wised to that they have another health problem for the first time by anesthesiologist during preoperative anesthesia visits.

Material And Methods: Patients who admitted to anesthesiology clinic of Gaziantep University Faculty of Medicine for preoperative examination and who were diagnosed with a new disease by anesthesiologist as results of consultations from other departments and/or examinations were evaluated.

Results: Due to changes in the ECG and chest X-rays, as a result of cardiology consultation 18 patients were diagnosed of valvular heart disease. One of these patients was diagnosed as severe AR+MR with pleural effusion. Six patients diagnosed with prior MI and CAD, 4 of these patients were undergone to the CABG surgery with emergency conditions. One patient was diagnosed with left bundle branch block because of being VES + in the ECG. Because of the changes in the PA chest x-ray, 16 patients were diagnosed with COPD and 2 patients were diagnosed with hydatid cyst. One patient was diagnosed as lung cancer and undergone thoracotomy surgery primarily. In addition, 4 patients were diagnosed with scoliosis due to spine seen in chest x-ray. According to biochemistry tests, while 2patients were diagnosed with new DM, 3 patients had the diagnosis of steatosis due to higher AST/ALT values. With the ELISA tests, 15 patients came to know that they are HBsAg + and 8 patients are HCV +.

Conclusion: Preoperative visit can reveal other unknown health problems not only the patients' risks for operations. These diagnoses are in favor for both the anesthesiologist's and surgeon not only medical but a legal case.

Keywords: New diagnostic; Pre-anesthetic evaluation; Preoperative evaluation; Risk assessment

1 Introduction

Pre-anesthetic evaluation is important for the uptake of medical records, patient history, physical examination and identifying appropriate approaches and to take a written informed consent (1). Pre-anesthetic evaluation have been reported to provide a total cost saving with 30% and a total duration saving of anesthesia 9% (2). According to data of the APECs (Anesthetic Preoperative Evaluation Clinics), pre-anesthetic examination should be approximately 15-20 minutes (3). APECs improve the cost-efficiency of the hospital by decreasing costs for routine laboratory tests, the number of patient cancellations and the length of hospital stays.Preoperative anesthetic assessment in wards and an APEC is assessing time (and, as a secondary outcome, costs), information gain and patient satisfaction with anesthetic care. (4).With the current intense pressure on hospitals to be more efficient, the timing of the pre-anesthesia assessment may influence the cancellation rate on the day of surgery (5). Fischer (6) reported that almost 90% of operating room

* Corresponding author: Betül Kocamer Şimşek

Copyright © 2022 Author(s) retain the copyright of this article. This article is published under the terms of the Creative Commons Attribution Liscense 4.0.

Department of Anesthesia and Reanimation, SANKO University, Gaziantep, Türkiye.

(OR) cancellations are day-surgery cancellations and that these cancellations add an average of 97 min to the turnover time.

In this study, patients who admitted to our clinic for preoperative anesthesia assessment of elective surgery were included. The aim of this study is to determine the rate of unknown diseases of patients resulting from consultation and tests according to Turkish Anesthesiology and Intensive Care Society (TARD) guidelines (7).

2 Material and methods

Without separating sex and age, patients who came to anesthesiology clinic of Gaziantep University Faculty of Medicine for preoperative examination between 2007- 2010 and who were diagnosed with a new disease by anesthesiologist as results of consultation from other departments and/or examinations were evaluated.

All tests were made according to TARD guidelines. Consultation requested to appropriate departments due to doubting test results, physical examination and patients' history. Patients who got wised to a newly diagnosed disease consequent to consultations and tests were recorded.

3 Results

As a result of cardiologist consultation requested due to suspects from changes in the ECG and chest X-rays, physical examination and history 18 patients (M / F: 14/4) were diagnosed of valvular heart disease (table 1). Five patients were diagnosed mitral regurgitation (MR), 1 patient tricuspid regurgitation (TR), 1 patient mitral stenosis (MS), 11 patients were aorta regurgitation and mitral regurgitation (AR + MR). One of these patients (24y / E) was diagnosed with severe AR+MR and was taken to coronary intensive care in emergency situation because of pleural effusion. According to ECG and TTE results six patients (M / F: 5/1) were diagnosed with prior MI and CAD, 4 of these patients were undergone to the CABG surgery with emergency conditions in cardio-vasculary surgery department. One male patient was diagnosed with left bundle branch block because of being VES + in the ECG.

As a result of pulmonologist consultation requested due to the changes in the PA chest x-ray, 16 male patients were diagnosed with Chronic obstructive pulmonary disease (COPD) and 2 male patients were diagnosed with hydatid cyst as a result of respiratory function tests and computed tomography (table 1). One patient (65y / F) was diagnosed as lung cancer as a result of thoracic surgeon consultation and undergone thoracotomy surgery primarily. In addition, 4 patients (M / F: 1/3) were diagnosed with scoliosis due to spine seen in chest x-ray.

Table 1 Newly diagnosed health problems

Health problems	n
Cardiac problems	
Valvulary heart diseases	18
MI/ angina pectoris/CAD	6
Left bundle branch block	1
Pulmonary problems	
COPD	16
Hydatid Cyst of Lungs	2
Lung Cancer	1
Scoliosis	4
Diabetes Mellitus	2
Hepatosteatosis	3
HBsAg (+)	15
HCV (+)	8

COPD: Chronic obstructive pulmonary disease; MI: Myocardial Infarction; CAD: Coronary artery disease

According to biochemistry tests, as a result of high blood glucose levels 2 female patients were diagnosed with newly DM, 3 male patients had the diagnosis of hepato-steatosis as a result of AST / ALT values higher than normal levels with gastroenterology consultation. According to the ELISA tests results; 15 patients (M / F: 7/8) wised up to that they are HBsAg + and 8 patients (M / F: 6/2) are HCV + for the first time (table 1).

4 Discussion

Preoperative anesthesiology assessment is important to determine the anesthetic risk, the selection of appropriate anesthesia type for patient, to take measures for possible difficulties, patient information and thus relief of patient, to prepare the extra materials medicine and blood products if necessary. This study pointed that preoperative visits may reveal unknown other health problems other than planned situations.

We have to assess the patients physically and their tests detailed, get a good history as a physician in the preoperative period. Getting information from some patients is sometimes difficult, because they avoid to tell their histories or they do not know what to say. If it is necessary, patients may need to ask potential chronic diseases individually as "Have you ever been diagnosed with hypertension?" or "Have you ever been diagnosed with heart disease?"

In some cases, patients do not want to answer these questions or they can not answer because they do not know the disease. In this case, the most appropriate way is to question (questionnaire) their regular medication and see their regularly used drugs. Some patients may have previously undiagnosed illness due to the avoidance of doctors.

In these patients, questioning functional capacity (8) is a reliable indicator and if there is a suspicion, cardiology and / or pulmonologist consultation can be requested according to the instructions in the TARD preoperative assessment guidelines (7).

Chronic obstructive pulmonary disease is characterized by persistent airflow limitation and progressive airway inflammation and its prevalence is rapidly increasing worldwide. Inflammation in the airways is triggered by inhalation of hazardous gases and particles; tobacco smoking is the leading contributing factor for this type of inflammation (9). Chronic smoking can lead to refractory inflammation in the lung which eventually results in destruction of the alveolar space, loss of surface area for gas exchange and loss of elasticity (i.e., emphysema) (10).

Many smokers are already diagnosed by pulmonologist because of dyspnea and have therapy. However, some patients may not be aware of dyspnea so a pulmonologist consultation can be requested in such intensive and long-term smokers or prolonged passive smokers. COPD is an important part of postoperative pulmonary complications (11). In the literature, incidence of postoperative pulmonary complications was reported about 23% (12-14). Choudhuri et al. found in their study that age greater than 70 years, history of smoking and presence of COPD were significantly associated with an increased risk of PPC among the demographic and preoperative characteristics. (11). Toriyabe et al investigated the perioperative management and postoperative pulmonary complications of patients who had preoperative respiratory problems and consultations with anesthesiologists. These patients numbered eight hundred, 23.7% of all patients who had preoperative consultations and 40.9% and 62.0% of the 800 had preoperative and postoperative respiratory management, respectively. Forty-eight patients (6.0%) received postoperative mechanical ventilation. One hundred and twenty four patients (15.5%) had some respiratory complications post-operatively and 5 patients (0.7%) died mainly because of the complications (15). Therefore, to determine these situations beforehand to is very important to decrease the risk of pulmonary complications.

5 Conclusion

This study showed that preoperative visit can reveal other unknown health problems not only the risks of patients. These diagnoses are in favor for both the anesthesiologist and surgeon not only medical but a legal case, therefore not satisfied with just a history and physical examination, appropriate medical tests should be performed in preoperative evaluation guidelines according to anesthesiology societies by type of operation and age.

Compliance with ethical standards

Disclosure of conflict of interest No conflict of interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

- [1] Committee on Standards and Practice Parameters, Apfelbaum JL, Connis RT, Nickinovich DG; American Society of Anesthesiologists Task Force on Preanesthesia Evaluation, Pasternak LR, Arens JF, Caplan RA, Connis RT et al. Practice advisory for preanesthesia evaluation: an updated report by the American Society of Anesthesiologists Task Force on Preanesthesia Evaluation. Anesthesiology. 2012 Mar;116(3):522-38. doi: 10.1097/ALN.0b013e31823c1067. PMID: 22273990.
- [2] Schuster M, Standl T, Wagner JA, Berger J, Reimann H, Am Esch JS. Effect of different cost drivers on cost per anesthesia minute in different anesthesia subspecialties. Anesthesiology 2004;101:1435-43.
- [3] Edward GM, Das SF, Elkhuizen SG, Bakker PJ, Hontelez JA, Hollmann MW et al. Simulation to analyse planning difficulties at the preoperative assessment clinic. Br J Anesth. 2008;100:195-202.
- [4] J. H. Schiff, S. Frankenhauser, M. Pritsch, S. A. Fornaschon, S. A. Snyder-Ramos, C. Heal, K. Schmidt, E. Martin, B. W. Böttiger, J. Motsch. The Anesthesia Preoperative Evaluation Clinic (APEC): a prospective randomized controlled trial assessing impact on consultation time, direct costs, patient education and satisfaction with anesthesia care. Minerva Anestesiol 2010;76(7):491-9
- [5] Tait AR, Voepel-Lewis T, Munro HM, et al. Cancellation of pediatric outpatient surgery: economic and emotional implications for patients and their families. J ClinAnesth 1997;9:213–9.
- [6] Fischer SP. Development and effectiveness of an anesthesia preoperative evaluation clinic in a teaching hospital. Anesthesiology 1996;85:196–206.
- [7] Türk Anesteziyoloji ve Reanimasyon Derneği (TARD) Anestezi Uygulama Kilavuzlari, Preoperatif Hazirlik. Kasım 2015
- [8] Eagle KA, Berger PB, Calkins H, et al. ACC/AHA guideline update for perioperative cardiovascular evaluation for noncardiac surgery--executive summary: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee to Update the 1996 Guidelines on Perioperative Cardiovascular Evaluation for Noncardiac Surgery). J Am CollCardiol 2002; 39:542.
- [9] Hogg JC, Chu F, Utokaparch S, Woods R, Elliott WM, et al. (2004) The nature of small-airway obstruction in chronic obstructive pulmonary disease. N Engl J Med 350: 2645–2653.
- [10] Barnes PJ, Shapiro SD, Pauwels RA. Chronic obstructive pulmonary disease: molecular and cellular mechanisms. EurRespir J 2003;22: 672–688.
- [11] Choudhuri AH, Chandra S, Aggarwal G, Uppal R. Predictors of postoperative pulmonary complications after liver resection: Results from a tertiary care intensive care unit. Indian J Crit Care Med. 2014;18(6):358-62.
- [12] Smetana GW, Lawrence VA, Cornell JE, American College of Physicians. Preoperative pulmonary risk stratification for noncardiothoracic surgery: Systematic review for the American College of Physicians. Ann Intern Med 2006;144:581-95
- [13] Fisher BW, Majumdar SR, McAlister FA. Predicting pulmonary complications after nonthoracic surgery: A systematic review of blinded studies. Am J Med 2002;112:219-25.
- [14] McAlister FA, Bertsch K, Man J, Bradley J, Jacka M. Incidence of and risk factors for pulmonary complications after nonthoracic surgery. Am J RespirCrit Care Med 2005;171:514-7.
- [15] Toriyabe M, Yamakage M, Kawamata T, Homma Y, Kurosawa S, Susa Y, Namiki A. Evaluation of risks for postoperative pulmonary complications using a preoperative consultation system. Masui. 1998;47(7):888-93.